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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,486	08/22/2003	John Charles DeBraal	6528	8735

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APPLETON PAPERS INC.  
LAW DEPARTMENT  
825 E. WISCONSIN AVENUE  
PO BOX 359  
APPLETON, WI 54912-0359

EXAMINER
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MUSSER, BARBARA J

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/645,486

Applicant(s)

DEBRAAL, JOHN CHARLES

Examiner

Barbara J. Musser

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.  
4a) Of the above claim(s) 15-18 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-14 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dontula et al.(U.S. Patent 6,447,976) in view Andersson(U.S. Patent 4,657,614) and the admitted prior art.

Dontula et al. discloses laminating together a foam layer and a paper layer by extruding a molten polyethylene film between the two and pressing to laminate together the layers in a nip.(Col. 8, ll. 4-17) Since the layers are pressed in a nip, one in the art would appreciate that the nip would have a preset gap since the purpose of such pressing is to form a uniform layer. While the reference does not specifically state the paper used is suitable for food or beverage stock, it does state any type of paper can be used. While the material formed is not intended for use as an insulated container stock, the claim does not require forming an insulated container stock, and if it did, the laminate of Dontula et al. would be capable of acting as an insulated container stock since it is made of the same materials. Dontula does not disclose one of the rollers is chilled in the nip. Andersson discloses when bonding together two layers using an extruded polymer, it is well-known for at least one of the rollers to be cooled.(Col. 6, ll. 12-13, 33-46) It would have been obvious to one of ordinary skill in the art at the time

the invention was made to cool at least one of the rollers in the nip since it is well-known in the extruding and bonding arts to cool one of the rollers to solidify the adhesive as shown for example by Andersson.(Col. 6, ll. 33-46)

The reference does not disclose how much the three layer is laminate is compressed as it passes between the rollers. However, applicant's admitted prior art discloses that the skilled artisan is readily able to ascertain the appropriate gap setting to prevent foam cell rupture. This indicates that one in the art would understand and be able to determine an appropriate gap width such that the materials being laminated were not destroyed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the laminate would not have been reduced in thickness more than 30% since the admitted prior art discloses that the skilled artisan would readily be able to determine the appropriate gap setting to prevent foam rupture, suggesting that greater than 30% reduction in thickness is known to not be desirable since such would lead to foam rupture. Additionally, since the main components of the laminate are the rigid foam and the paper, and since neither of them is easily substantially compressible and since the polymer between them is the only easily compressible material and it is intended to act as an adhesive, one in the art would appreciate that the total thickness of the laminate would not be reduced more than 30% since paper and rigid foam cannot easily be compressed to such an extent without damage and since the polymer film which could be reduced by that amount is acts primarily as an adhesive and therefore would not be thick enough that any

reduction in its thickness would result in a greater than 30% reduction in the thickness of the total laminate.

Regarding claim 7, Dontula et al. discloses the nip is composed of two rollers.(Col. 8, ll. 9)

3. Claims 1-3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Digiesi(CA 2,291,607) in view of Andersson and Dontula et al.

Digiesi discloses forming a wall for an insulating container by laminating together foam and paper(Abstract) but does not disclose how this lamination occurs. Andersson. discloses a method of laminating together two layers, one of which may be foam or paper, by extruding a polymer layer between the two layers and bonding them together using at least one cooled roller in a nip made of two rollers.(Figure 2; Col. 6, ll. 12-13, 33-46) Dontula et al. discloses it is known to bond together foam and paper using an extruded polymer layer.(Col. 8, ll. 9-18) It would have been obvious to one of ordinary skill in the art at the time the invention was made to bond together the foam and paper of Digiesi using an extruded polymer layer since extruding a polymer layer and pressing in a chilled nip is a known method of bonding two layers together as shown by Andersson particularly since Dontula et al. discloses it is known to bond together paper and foam extruding a polymer layer between them and bonding them in a nip.(Col. 8, ll. 6-17) Since Digiesi and Andersson do not disclose that thicknesses of the two layers being bonded together are substantially less after bonding than before, one in the art would appreciate that the formed laminate would not be substantially, i.e. more than 30%, reduced in size.

Regarding claims 2 and 3, Digiesi discloses the formed wall can be made into the wall of a container and that a bottom can be added.(Figures 3A and 13)

4. Claims 4, 6, 8-10, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Digiesi, Andersson, and Dontula et al. as applied to claim 1 above, and further in view of Van Handel(U.S. Patent 6,536,657).

The references do not disclose applying a heat-shrinkable layer to the inside foam layer of the container of Digiesi, Andersson, and Dontula et al. Van Handel discloses applying a heat-shrinkable film to the surface of the laminate which will become the inside of the container.(Abstract; Figures 2B and 2C) This film forms air pockets which thermally insulate part of the cup.(Abstract) It can be applied to the inner surface of the laminate by extruding it onto the inner surface and pressing it against the laminate using a chill roll containing nip.(Col. 7, ll. 34-42) It would have been obvious to one of ordinary skill in the art at the time the invention was made to extrude a heat-shrinkable film onto the inner foam surface of the laminate of Digiesi, Andersson, and Dontula et al. using a chilled nip to bond the film to the laminate since the heat-shrinkable film forms air pockets which thermally insulate part of the cup.(Abstract) While the references do not suggest whether the heat-shrinkable film is applied before or after the foam and paper are bonded, one in the art would appreciate that it could be applied before or after bonding the foam and paper as only the expected results would be achieved.

Regarding claims 8, 9, 13, and 14, Digiesi discloses the formed wall can be made into the wall of a container and that a bottom can be added.(Figures 3A and 13)

Regarding claims 10 and 14, Van Handel discloses heat-treating the heat-shrinkable film to shrink it.(Abstract)

Regarding claim 12, Van Handel discloses the heat-shrinkable film can be polyethylene.(Col. 6, ll. 21)

Regarding claims 13 and 14, Dontula et al. discloses the polymer used to bond the foam and paper together is polyethylene, but does not disclose if it is low density polyethylene.(Col. 8, ll. 15) Andersson discloses the thermoplastic which joins the two layers together can be low density polyethylene.(Col. 7, ll. 62-63) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use low density polyethylene as the extruded adhesive since Dontula et al. discloses that polyethylene is used to bond together foam and paper and since Andersson shows that a conventional adhesive for bonding two layers together, one of which is foam or paper, is low density polyethylene.(Col. 7, ll. 62-63)

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 4 above, and further in view of Geddes et al.(U.S. Patent 6,030,476).

The references cited above do not disclose applying a polyethylene film to the outer surface of the paper layer. Geddes et al. discloses applying a polyethylene coating to the outer surface of a paper layer to prevent liquids for penetrating it and to prevent the moisture in the paper from evaporating during treatment.(Col. 4, ll. 35-40) It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a polyethylene layer to the outer surface of the paper layer to prevent the

moisture in the paper from evaporating during treatment.(Col. 4, ll. 35-40) While the paper layer in Geddes et al. is on the interior of the container, the same problems occur when the paper is on the exterior since the container can absorb liquid splashed on it.

### ***Response to Arguments***

6. Applicant's arguments filed 9/9/05 have been fully considered but they are not persuasive.

Regarding applicant's argument that Dontula et al. discloses increasing the thickness of the laminate, the portion of the reference applicant points to teaches that the foam can have a density of 20-95% percent of what it would be if the polymer layer were not a foam, but it does not disclose that the foaming which causes this density decrease and thickness increase occurs during the bonding process. Rather, since the reference refers to bonding the foam core, one in the art would understand that it was already foamed, and therefore no increase in thickness would occur during the bonding process.(Col. 8, ll. 6-10)

### ***Response to Amendment***

7. The declaration under 37 CFR 1.132 filed 9/9/05 is sufficient to overcome the rejection of claims 1-14 based upon DeBaal et al.



***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara J. Musser whose telephone number is (571) 272-1222. The examiner can normally be reached on Monday-Thursday; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571)-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
BJM

  
RICHARD CRISPINO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700